



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/657,632

09/06/2000

Catherine Mary Graichen

RD-27,672

1726

6147

7590

11/04/2004

GENERAL ELECTRIC COMPANY  
GLOBAL RESEARCH  
PATENT DOCKET RM. BLDG. K1-4A59  
NISKAYUNA, NY 12309

EXAMINER

DESTA, ELIAS

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/657,632

Applicant(s)

GRAICHEN ET AL.

Examiner

Elias Desta

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10-15,17,18,20-22 and 24-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,10-15,17,18,20-22 and 24-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 September 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **Response to Applicant's Amendment**

### **Specification**

1. The Examiner accepts the amendment to the specification.

### **Explanation of Rejection**

#### Claim rejection – 35 U.S.C 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) The invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 3-8, 10-15, 17, 18, 20-22 and 24-26 are rejected under 35

U.S.C. 102(e) as anticipated by Rollins, III (U.S. Patent 6,606,848).

In reference to claims 1, 8, 15 and 22: Rollins, III teaches a method for providing efficiency and cost analysis for a power generation unit (see Rollins, III, Figs., 16-20, 27B and 28). The method includes:

- Acquiring a plurality of current condition variables for the power generation unit (see Rollins, III, Fig. 36);
- Acquiring a plurality of design constraints for the power generation unit (see Rollins, III, Figs. 44 and 50);
- Acquiring a plurality of alternative target operation variables for the power generation unit (see Rollins, III, Figs. 18 and 19); and
- Calculating operational efficiency of the power generation unit (see Rollins, III, column 36, line 34 to column 37, line 63) based upon the plurality of current condition variables (see column 41, lines 5-29), plurality of alternative target operation variables (see column 41, line 50 to column 42, line 52, the use of waste heat and supplemental firing) and plurality of design constraints (see column 39, lines 1-27, effect of water wall construction on HRSG).

With regard to claims 3, 17, 10 and 24: as noted above in claims 1, 8, 15 and 22, Rollins, III further teaches that the method includes the step of:

- Acquiring a plurality of stage operation variables for the power generation unit (see Rollins, III, Fig.48); and
- Acquiring a plurality of stage design constants for the power generation unit (see Rollins, III, Figs., 47 and 49).

With regard to claims 4, 11, 18 and 25: as noted above in claims 3, 10, 17 and 24, Rollins, III further teaches that the method includes:

- Calculating operational efficiency between each stage of the plurality of stage operation variables of the power generation unit (see Rollins, III, column 36, line 34 to column 37, line 13); and
- Calculating operational efficiency between each stage of the plurality of stage design constants of the power generation unit (see Rollins, III, column 38, line 64 to column 39, line 27).

With regard to claims 5, 12, 19 and 26: as noted above in claims 4, 11, 18 and 25, Rollins, III further teaches that the method includes acquiring a plurality of stage alternative targets operation variables for the power generation unit, such as temperature and pressure (see Rollins, III, column 41, lines 30-60).

With regard to claims 6, 13 and 20: as noted above in claims 5, 12 and 19, Rollins, III further teaches that the method includes calculating operational efficiency between each stage of the plurality of stage alternative target operation variables of the power generation unit (see Rollins, III, column 41, line 60 to column 42, line 36).

With regard to claims 7, 14 and 21: as noted above in claims 6, 13 and 20,

Rollins, III further teaches that the method includes:

- Calculating a plurality of optimization variables to associate increased efficiency of the power generation unit with maintenance cost to achieve the increased efficiency (see Rollins, III, Fig 49); and
- Generating a report indicating a plurality of optimization variables for the power generation unit (see Rollins, III, Fig 37).

### **Response to Applicant's Amendment**

4. Applicant's arguments filed July 7, 2004 have been fully considered but they are not persuasive.

In reference to claims 1, 8, 15 and 22: Applicant has amended these claims to include the limitations of claims 2, 9, 16 and 23, which are now cancelled. After reexamining the added or amended limitations, the examiner find that the efficiency computation that relies on the three sets of variables is actually taught by Rollins, III.

- The plurality of current condition variables such as energy transferred to the steam, exhaust heat, firing heat and heat lost to ambient or environment are noted in Rollins, III, column 37, lines 5-25.
- The plurality of design constraints, such as steam cycle basic efficiency, (which are usually computed during design and manufacturing),

auxiliary load factor and steam turbine generator loss are variables computed during the design cycle (see Rollins, III, column 37, lines 25-35); and

- Alternative target operation, which deals with the use of waste heat, and the use of supplemental firing compliments a different target operation that is used to compute the efficiency computation noted in column 36, lines 55 (see also Rollins, III, column 41, line 50 to column 42, line 36).

Further, Acquiring a plurality of alternative target operation variables for the power generation unit is noted in Rollins, III, Figs. 18 and 19.

### Conclusion

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory

period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elias Desta whose telephone number is (571)-272-2214. The examiner can normally be reached on M-Thu (8:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)-272-1750.

Elias Desta  
Examiner  
Art Unit 2857

-ed

October 27, 2004



PATRICK ASSOUD  
PRIMARY EXAMINER